Non-medical prescribing by physiotherapists: Issues reported in the current evidence

Joanne H. Morris a,*, Karen Grimmer b

a ACT Health Directorate, Canberra 2605, Australia
b International Centre for Allied Health Evidence, (iCAHE), University of South Australia, Australia

A R T I C L E   I N F O
Article history:
Received 8 March 2013
Received in revised form 6 April 2013
Accepted 8 April 2013

MeSH keywords:
Physical therapy modalities
Physical therapy specialty
Drug prescriptions
Drug therapy
Primary health care
Medicine
Extended scope physiotherapy

A B S T R A C T
Physiotherapists should be proactive in preparing themselves to participate in innovative models of health care, which are emerging from the healthcare workforce reforms in Australia. One challenging outcome of workforce change is physiotherapy (non-medical) prescribing (NMP), which is part of the extension of scope of physiotherapy practice. This paper summarises the current evidence base for Australian physiotherapists seeking to obtain prescribing rights. A targeted literature review was undertaken through EBSCO Host, Cochrane, Medline, SportsDiscus, Cinahl, Healthsource and Google.com using broad search terms to identify peer-reviewed and grey literature pertaining to NMP by physiotherapists, nationally and internationally. No critical appraisal was undertaken however literature was structured into the NHMRC hierarchy of evidence. Themes raised in the included literature were reported descriptively. There were six relevant peer-reviewed articles, of hierarchy levels III_3 and IV. There was however, comprehensive and recent grey literature to inform Australian physiotherapy NMP initiatives. Themes included the need for standard National action in relation to legislative and regulatory/registration issues, appropriate education, credentialing and supervisory requirements for physiotherapy prescribing.

Many lessons can be learnt from the literature, including the importance of planned, uniform National action (rather than piecemeal state-by-state initiatives). Essential elements include appropriate training and skills-based recognition within the discipline and the broader health team, and the need to overtly demonstrate effectiveness and safety. Regularly-evaluated service-delivery models which support NMP by physiotherapists are further required, to demonstrate efficiency, timeliness, patient centredness and equity.

1. Introduction
The last decade has seen rapid international changes to healthcare environments and workforce (Kersten et al., 2007; McClellan et al., 2010; Stanhope et al., 2012). Drivers of change include increasing prevalence of chronic disease, ageing populations, and increasing community expectations of responsiveness (eg shorter waiting times, quicker assessments). This has led to innovative models of care described internationally as workforce redesign (Robertson et al., 2003; Stanhope et al., 2012). Expansion of scope of practice is one workforce redesign initiative which involves physiotherapists (Robertson et al., 2003).

Increased prevalence of chronic disease brings an increased demand for medicines. Within an environment promoting healthcare responsiveness to consumer demand, this can be addressed by increasing the number of prescribers via Non-Medical Prescribing (NMP).

This paper considers medicolegal, professional and educational as well as workforce redesign issues relevant to prescribing by physiotherapists.

2. Issues surrounding extended scope practice in physiotherapy

Extended Scope Physiotherapy Practice (ESP) is defined as:

“A role that is outside the currently recognised scope of practice and requires legislative change. Extended scope of practice requires some method of credentialing following additional training, competency development and significant clinical experience. Examples
include prescribing, injecting and surgery. This role describes the breadth of practice.”


2.1. Background of NMP

NMP has been in existence in the UK since 1989 (Drug and Therapeutic Bulletin, 2006). This largely reflects pressures brought to bear on the UK health workforce, to increase service responsiveness. Specifically relating to physiotherapy-prescribing in the UK, activities have occurred under direct instruction from Medical Practitioners since early 1990s, and injection practices since 1995 via patient-group directives (PGDs). In 2009, there were approximately 3000 physiotherapy-injectors (Department of Health (UK) 2009).

There is general international support for ESP physiotherapy roles as a way of making specialist healthcare services more available to those who need it (Kersten et al., 2007; McClellan et al., 2010; Lebec, 2010). Kersten et al. (2007) systematically reviewed literature about ESP physiotherapy roles in the UK, their acceptability and effectiveness. This review included 23 data sources that reported at least one component of ESP physiotherapy roles being invasive (e.g. prescribing and injecting). Holdsworth et al. (2008) specifically mentioned prescribing NSAIDs as a component of extended-scope physiotherapy roles.

However, there is a lack of published evidence relating to the role and effectiveness of physiotherapists when prescribing or administering medication, or injecting. There is more literature relating to other ESP physiotherapy roles in undertaking traditional medical tasks eg orthopaedic triage or listing for surgery (Kersten et al., 2007).

A study by Birchall et al. (2008) discussed the efficacy of injecting hyaluronic acid for the treatment of OA knee pain, with the injections being provided by physiotherapists, however the paper did not discuss the ability of the physiotherapists to provide this treatment more the efficacy of the treatment itself.

For the purposes of this paper, prescribing is defined as:

“The information gathering, clinical decision making and communication steps involved in the initiation, continuation or cessation of a medication, remedy or treatment for a specific patient”

Nissen et al., 2010.

3. Methods

3.1. Aim

This review aimed to identify issues reported in the current literature (published and unpublished) which should be considered, before NMP by physiotherapists is introduced in Australia as part of any workforce reform.

The current evidence-base was established in three ways

a) a targeted literature review of electronic databases EBSCO Host, Cochrane, Medline, SportsDiscus, Cinhal, Healthsource, using broad search terms of:
   • Prescr#
   • Physiothera#*

b) identifying grey literature via Google.com and government internet sites

c) Hand searching reference lists of included peer-reviewed and grey literature to identify articles not retrieved via primary database searching.

Included articles were limited to full text, peer-reviewed, and comprehensive government documents, published between 2002 and 2012. Included articles were classified in the NHMRC hierarchy (Merlin, et al., 2009), although critical appraisal of methodology was not undertaken. Literature was extracted on NMP activities undertaken by physiotherapists, and service delivery issues (i.e. legislation, registration, training, competencies). Data synthesis was reported descriptively.

4. Results

Of 237 potentially relevant peer-reviewed articles, six directly addressed NMP for physiotherapists. Three relevant government reports were also sourced, and no additional references were identified by hand-searching (see Fig. 1).

4.1. Overview

Six relevant peer-reviewed articles were found (hierarchy levels III_3, IV). Three comprehensive, recent grey literature sources were identified. The evidence suggests that the UK approach to physiotherapy ESP (including NMP) has lacked a consistent, robust and National direction (Nissen et al., 2010; McCormick and Downer, 2012; Stanhope et al., 2012). However Nissen et al. (2010) and the Department of Health (UK) (2009) concur that NMP has the potential to:

- Improve patient care without compromising safety
- Make it simpler and more efficient for patients to get the medicines they need
- Increase patient choice in safely accessing medications – including access to care closer to home
- Make better use of the skills of health professionals and increase value for money
- Contribute to introduction of a more flexible team working
- Facilitate early discharge from hospital
- Prevention of admission to hospital

4.2. Safety

The UK Department of Health (2009) demonstrated in an adverse events report (January 2005–June 2006) detailing 60,000 medication incidents in the UK, that none related to Allied Health Professional (AHP) prescribers. The reports investigating NMP (Department of Health (UK) 2009; Nissen et al., 2010) highlighted key requirements to safely introduce NMP:

- Credentialing processes
- A competency framework
- A licensed accrediting body/organisation to regulate registration processes

It is therefore essential to consider these components in the context of introducing NMP by Australian physiotherapists.

4.3. Models of prescribing

The UK has trialled several NMP models. Nissen et al. (2010) completed a scoping report for National Health Workforce Australia on NMP, based on UK learnings. They presented ideas for developing a nationally-consistent approach to prescribing by non-medical health professionals in Australia. Four cumulative tiers were recommended to underpin introduction of NMP in Australia:

1. Administration: tight model for immediate prescription only
2. Protocol model: allowing scope for supply of a course of medication (e.g. antibiotics)
3. **Supplementary/collaborative**: delegated prescribing authority model with controls on disease state(s) treated and range of medications available

4. **Independent**: delegated prescribing authority where a practitioner operates within a collaborative environment without direct supervision constraints

The cumulative approach described by Nissen et al. (2010) could be adapted to accommodate the variety of clinical areas and contexts within which Australian physiotherapists operate, as well as individuals’ prescribing interests. For instance, for the first tier, basic formulary could be developed for individual clinical areas, using clinical experts, which are then adapted to individual situations.

### 4.4. Current legislation

There are Australian state-by-state variations in the Medicines, Poisons and Therapeutics Goods Regulations/Acts, relative to physiotherapists. In some Australian states, there is capacity within current legislation to trial limited physiotherapy-prescribing (under “standing order” or “permit” arrangements), whilst other states require legislative changes. Information about state and territory Medicines and Poisons Acts needs to be accessed by individual state websites (Appendix 1). The Australian Health Practitioner Regulation Agency (AHPRA) is currently developing a document to collate this information, thus providing a central resource for physiotherapists to review the legislation as it applies to them.

### 4.5. Grey areas of physiotherapy-prescribing

There are continuing legislative ‘grey’ areas of physiotherapist involvement with medicines in Australia (Sullivan & Lansbury, 1999; Grimmer et al., 2002; Kumar & Grimmer, 2005). This includes physiotherapists providing patients with variable advice regarding NSAIDs and pain medication, or administering NSAIDs during treatment. In light of NMP initiatives, it is timely to consider the differences in medicines training in Australian undergraduate and postgraduate physiotherapy programs, to ensure minimum educational standards (Sullivan & Lansbury, 1999; Grimmer et al., 2002; Kumar & Grimmer, 2005; Braund & Haxby Abbott, 2011)

### 5. Discussion

Proactivity is required to ensure that NMP by Australian physiotherapists has appropriate medicolegal support, formal training and credentialing, and formal recognition by the health workforce. Whenever a physiotherapist receives NMP rights, standard evaluations should regularly occur to ensure consistent quality care. The Institute of Medicine model (Kohn, et al., 2000) defines quality care in terms of effectiveness, efficiency, timeliness, safety, patient centredness and equity. NMP by physiotherapists should be evaluated in these terms to ensure that it is a recognised and sustainable element of the future health workforce.

#### 5.1. Regulation

There is a new National registration body for physiotherapists (Australian Health Practitioner Regulation Agency (AHPRA — [http://www.ahpra.gov.au/])). This may be the most appropriate Australian body to provide regulatory authority to Australian physiotherapy-prescribing. This approach would be consistent with the UK experience, where the regulatory body (the Health Professions Council), is responsible for the regulatory function of physiotherapist-prescribers, by a notation in the clinician’s registration. It is therefore suggested that a caveat be included in the Australian registration processes to accommodate credentialed physiotherapy-prescribers.

#### 5.2. Education and training

Coupled with variable training in undergraduate pharmacology (Sullivan & Lansbury, 1999; Grimmer et al., 2002; Kumar & Grimmer, 2005; Braund & Haxby Abbott, 2011), currently there are limited training programs in post-graduate pharmacology available to
physiotherapists wishing to work in ESP roles. A decade-old study by Sullivan and Lansbury (1999) suggested that inadequate training in medications potentially resulted in lax practice, particularly related to obtaining and keeping comprehensive records about patients’ medication. These findings were supported by Grimmer et al. (2002) who undertook a survey of approximately half of the registered physiotherapists in South Australia. This survey found notable differences in engagement with medicines in day-to-day clinical practice, as well as variable understanding of dosage, and action of oral and topical NSAIDs. More recently, Braund and Hasby Abbott (2011) undertook a study of New Zealand physiotherapists’ understanding of contraindications to recommending NSAIDs, finding that whilst 70% could demonstrate knowledge relating to gastrointestinal issues, ulcers or bleeding, only 30% had demonstrated knowledge of respiratory, renal or allergic risks. This literature highlights that an essential component for introducing physiotherapy-prescribing is a nationally-recognised and accredited learning program for undergraduate physiotherapists, and formal avenues for continuing professional development, credentialing and skill maintenance for physiotherapists working in-scope as well as in extended scope roles.

5.3. Credentialing

The credentialing and education process must translate to the clinical environment and model of care within which the physiotherapy-prescriber works. A credentialing model that includes supervision from a registered prescriber within an appropriate clinical context is essential to ensure that a safe and effective level of prescribing practice is achieved and recognised. However, in the current context, where there are no registered physiotherapy prescribers, there has to be engagement with other registered prescribers to provide supervision. McCormick and Downer (2012) identified that a key component for supervision of NMP students is ensuring that the education and supervision process and scope of practice of the NMP student is well understood by the medical supervisor. A key consideration to introducing physiotherapy-prescribing will be education and consultation with other health professionals to ensure local support and engagement.

5.4. Use of protocols and guidelines

Atkins (2003) identified through interviews with 11 UK physiotherapists with recognised injecting skills that a more formalised approach to physiotherapy-prescribing and ESP roles will produce a more consistent, transferable and recognised workforce.

5.5. Competency

A competency framework that is specific to Australian physiotherapy knowledge and practice is urgently required, to underpin roll-out of extended scope of practice. Australian physiotherapists have the skills and training to assess, diagnose and provide treatment to patients in broad clinical areas, including, but not limited to, musculoskeletal, cardio-respiratory, neurology, paediatrics, obstetrics and gynaecology and aged-care practices. There are credible workforce, patient access and health outcome drivers to extend physiotherapy scope of practice in all of these clinical areas, thus consideration of prescribing needs across these clinical fields is required. Moreover, many of the urgent drivers for change come from rural and remote areas, where access to medical practitioners may be a significant issue. The practicalities of introducing physiotherapy-prescribing in metropolitan, regional, rural and remote settings need to be carefully considered, as the ways in which NMP is introduced and supported may be significantly different.

6. Conclusion

NMP is an essential component of physiotherapy ESP. With the right training and supports, it has been shown to be safe overseas, and it could be practiced similarly by Australian physiotherapists. However, for this to be a successful and acceptable workforce reform initiative in Australia, it requires policy and legislation changes, promotion of alternative NMP models to suit different situations, context-relevant training and credentialing, and informed support from the medical profession. Comprehensive evaluation criteria should be developed and widely implemented, to ensure that safe practices and prescribing principles are demonstrated by physiotherapy-prescribers.

Acknowledgements

Jessica Stanhope, iCAHE, for assisting with searching.

Appendix 1. State and Territory Legislation documents relating to medicines


Source of support

None.

Competing interests

None declared.
References

Section 1: Peer-reviewed literature from search

Atkins E. Physiotherapists’ experience of implementing their injection therapy skills. Physiotherapy 2003;89:145–57.


Section 2: Government reports from search


Merlin T, Weston A, Toohor R. Extending an evidence hierarchy to include topics other than treatment: revising the Australian ‘levels of evidence’. BMC Medical Research Methodology 2009;9:34–42.


Section 3: Background Information


References